

Thorax at sides with sutural edge rounding out to near base, thence parallel and as wide as elytra, at basic edge a slight spur conforms to rounded shoulder of elytra, from which the base runs very evenly in a semi-cylindrical arch scarcely flattened at top.

Elytra conforming to thoracic base, sides parallel, the tip practically parallel with frontal edge.

Abdominal segmental edges pilose, the last more strongly so or bristled, four segments protruding beyond elytra or sometimes drawn in telescopically, giving the appearance of being dropped or broken off.

Length 2 mm., width 1.2 mm., length to tip of elytra 1.6 mm.

Specimens abundant under bark of dead pines and deciduous trees and when exposed very lively to avoid the light.

Coenocara nigricornis n. sp.

♂. Antennae and palpi dark or fuscous, a peculiarity seen in no other species except the very unlike *scymnooides* Lec. Color piceous, not as dark as in *oculata*, which this species most closely resembles, the more profuse pilosity giving it a gray-brown aspect; finely and densely punctulated throughout, the punctures more widely separated than in *oculata*; head proportionately larger, but eyes as small and about equal in both sexes cleft about two-thirds (in *bicolor* Germ. the eyes are nearly black, the facets more in relief, the cleft only to middle and in the ♂ much larger than in the ♀). The elytral striae, two complete near margin and one short frontal just above, are as in *oculata*.

Length 2.6 mm., *oculata* and *bicolor* being about 2 mm.

Five specimens in all, three in possession of author and one ♂ one ♀ in the Blanchard addition of the LeConte collection at Cambridge, Mass.

**The North American Species of Draeculacephala
(Homoptera).**

By E. P. VAN DUZEE, Berkeley, Calif.

A fine series of these insects from Georgia and Florida received from Prof. J. C. Bradley has enabled me to make out with some degree of certainty all the known forms except *producta* Walker, and to distinguish four still undescribed. In the following key the characters have been taken mostly from the females as they are usually more abundant

and show better diagnostic characters. In the males the vertex is uniformly shorter with the dark markings more pronounced.

KEY TO THE SPECIES:

Line of the face when viewed from the side rectilinear or nearly so 1

Line of the face strongly arcuated, the front tumidly convex 12

1, Markings of vertex consisting of pale brown mottlings, arranged more or less distinctly in longitudinal series; color dull testaceous yellow, the broad anterior margin of pronotum and elytral venation whitish; vertex acute, nearly as long as broad; last ventral segment of female distinctly bisinuate; length 8-9 mm.; Florida *floridana* Ball.

Vertex not mottled; markings in lines and points more or less distinct 2

2, Five black points on the vertex (including the ocelli) and two on the base of the scutellum 3

Vertex and scutellum without distinct black points or the ocelli only marked with black 4

3, Color pale testaceous tinged with brownish, the costa only yellowish; anterior margin of pronotum with vermiculate marks including a distinct black spot behind the eye; vertex acute, as long as broad; last ventral segment of female produced, the lateral angles right-angled; length 6 mm.; Southern states,

7-guttata Walk.

Color typical of the genus, yellow with the disk of the pronotum and the elytra green; anterior black point on the vertex often obsolete in the male, the lines obscure; vermiculate marks on the anterior margin of the pronotum faint or wanting, not forming a point behind the eye; vertex acute, not as long on the middle line as wide at base including the eyes; last ventral segment of the female scarcely bisinuate, the lateral angles sometimes moderately produced; length 6 mm.; Georgia. *balli* n. sp.

4, Vertex acute, much less than right-angled in the female; pronotum with a group of black punctures before the humeri 5

Vertex obtuse, scarcely more than right-angled before; pronotum without a group of black punctures before the humeri 9

5, Vertex greatly produced, at least as long as broad across the eyes; lines on vertex indistinct; green and yellow of the upper surface clear, elytral nervures bluish; beneath testaceous; female without fuscous vitta on the sides, its last ventral segment truncated and but little produced; length 9 mm.; Florida. *acuta* Walk.

Vertex not as long as wide across the eyes 6

6, Anterior margin of pronotum with vermiculate dark marks; lines on the vertex obviously interrupted or dotted; hind edge of vertex with a short oblique brown line behind each ocellus; beneath black or fuscous; face black in both sexes; last ventral segment of female nearly truncated, slightly produced at the middle; length 6 mm.; Georgia *bradleyi* n. sp.

Anterior margin of pronotum without vermiculate marks; oblique line wanting on hind margin of the vertex 7

7, Vertex equal in length to the pronotum; male black beneath; last ventral segment of female obviously bisinuated, the median tooth longer than the lateral angles; length 6 mm.; United States, *minor* Walk.

Vertex one-half longer than the pronotum; males rarely deep black beneath, at least on the face 8

8, Larger; markings on vertex more obsolete, often scarcely indicated; elytral venation pale, the pronotum without pale longitudinal lines; last ventral segment of the female more produced, the lateral angles obvious; length 9-10 mm.; U. S. and Canada to Rocky Mts. *angulifera* Walk.

Smaller, markings on vertex distinct; elytral venation more or less bluish; pronotum with three bluish longitudinal lines; last ventral segment of the female more truncated; length 7 mm.; United States *mollipes* Say.

9, Anterior margin of pronotum with vermiculate dark marks; vertex subacute before; scutellum with three points and a line black; colors dull; last ventral segment of the female truncated, a little roundedly produced at the middle; length 7 mm.; Georgia, *inscripta* n. sp.

Anterior margin of pronotum without vermiculate marks 10

10, Male: head subacute, angle of the vertex distinctly less than a right-angle; markings of vertex heavy, including a sagittate mark before the apex and an annulus next the eye; form narrower; plates produced in long acute upturned points; length 7 mm.; Colorado to Canada *manitobiana* Ball.

Head more obtuse, apex of the vertex about a right-angle in the male, scarcely less in the female; markings of vertex lighter, with an incomplete annulus next the eye and no sagittate mark before the apex; form broader 11

11, Black marks at apex of the vertex narrower, linear and parallel in the female, broader and more diffuse in the male but not transverse or divergent behind; sides of the pronotum without a black line behind the eye; male antennæ long, thickened to near its tip; male plates with abrupt, slender and divergent tips; length 7-8 mm.; Washington and Oregon *crassicornis* n. sp.

Black marks at apex of vertex broad and subtriangular, transverse behind; sides of the pronotum with a slender black line behind the eye; male antennae normal, setaceous; plates of male with slender divergent tips; length 8 mm.; United States and Canada *noveboracensis* Fitch.

12. Vertex about as long as the pronotum; whitish with a short median line at base and a broad wedge-shaped vitta at apex, the latter mottled; scutellum with a transverse line and sometimes four points black; Colorado *gilletti* Ball.

Vertex much shorter than the pronotum, fulvous with a polished black dot on each ocellus; scutellum immaculate or with the incised line slenderly brown, South States to California. *reticulata* Sign.

DESCRIPTIONS OF NEW SPECIES:

Draeculacephala balli n. sp.

Allied to *7-guttata* Walker but differs in being smaller, green instead of testaceous brown, and in wanting the black points on the pronotum behind the eyes and the anterior point on the vertex is often wanting. Length 5-6 mm.

Vertex in the male as long as the pronotum, distinctly longer in the female; sides viewed from above rectilinear, not slightly concave as in *7-guttata*. Front viewed from the side nearly rectilinear, not obviously concave as in the female *7-guttata*. Last ventral segment of female moderately produced, the lateral angles sometimes a little prominent; male plates longer than the pygofer, acute and a little produced and recurved at apex, about as in *7-guttata*.

Color green, somewhat obscure; vertex, costa and anterior margin of pronotum obscure greenish or whitish yellow. Three points on the vertex and an angular mark at the apex black; the two posterior points are more conspicuous and are placed on the hind margin behind the ocelli. Pale anterior margin of the pronotum sometimes with faint green mottlings. Scutellum with two conspicuous black points within the basal angles. Beneath and legs pale brownish testaceous; front darker with a black point at apex and another in the antennal cavity, and about seven darker arcs; sides with a blackish vitta under the eye extended over the pleuræ, sometimes diffuse; tergum blackish, darker in the male.

Described from numerous examples of both sexes taken on Billy's Island in the Okefenokee Swamp, Georgia, in June, and in Decatur County, Georgia, in July, by Prof. J. C. Bradley. This is evidently the form described by Dr. Ball as *7-guttata* in his Review of the Tettigonidæ. His specimens were from Florida and Mississippi.

Draeculacephala bradleyi n. sp.

Allied to *balli* but averaging smaller. Length 5-6 mm.

Vertex long; of the female one-fourth longer than the pronotum, of the male scarcely longer; sides rectilinear. Front viewed from the side very feebly concavely arcuated. Clypeus quite strongly angled. Last ventral segment of female short-triangular at apex, the sides nearly straight; plates of the male longer than the pygofer, acute but not produced at apex.

Color a rather dull dark green, nervures paler; vertex, broad anterior margin of pronotum, scutellum and costa yellow, more or less tinged with green. Lineations of the vertex obscure, especially in the female; hind margin with a short oblique line behind each ocellus; ocelli black; extreme tip of vertex fulvous with a minute brown dash on either side. Pale anterior margin of pronotum with dusky lines and points, more conspicuous in the male. Beneath nearly black, deeper on the face, where the frontal arcs are often obsolete; edge of the head clear yellow. Venter sometimes greenish, the edge of the connexivum pale.

Described from one female and many males taken on Billy's Island, Okefenokee Swamp, Georgia, in June, and in Decatur County, Georgia, in July, by Prof. J. C. Bradley, to whom this species is dedicated in recognition of his able assistance in the collection and study of the Hemiptera. I have tried to identify this species with *producta* Walker, but I find too many discrepancies to allow of such determination.

Draeculacephala inscripta n. sp.

Allied most closely to *minor*, but more stoutly built, with the vertex and anterior margin of the pronotum heavily lined with black. Length 7 mm.

Vertex acute at apex, a little shorter than the pronotum, its length nearly one-half its width across the eyes; the surface behind the apex not so strongly depressed as in some of the allied forms; clypeus unusually tumid and strongly angled when viewed from the side. Last ventral segment of the female roundedly produced at the middle, this lobe shorter and less angled than in the allied species.

Color dark dull green above with the vertex, anterior margin of the pronotum, scutellum and costa dull yellowish. Markings of the vertex heavier than in any allied species, more typical of the *noveboracensis* group; these marks consist of four arcs on the reflexed base of the front, which unite to form an oblique black ray either side of the apex;

a curved line behind these which is angled where it touches the apical margin before the ocellus and is continued to the eye as a marginal line, a more strongly curved line on the disk behind this terminating behind the ocellus and near a vertical line which with the marginal line and one next the eye nearly encircles a black dot; median line slender, black. Pale anterior margin of the pronotum with vermiculate dark marks. Scutellum with the anterior margin, in part beneath the pronotum, the transverse incised line and three points before it black. Elytral venation pale. Beneath pale, face darker, with about 10 brown arcs. A lateral line cutting the eye deep black; apex of the head black bisected by a yellow line.

Described from a single female taken in the Okefenokee Swamp, Georgia, in June, by Prof. J. C. Bradley.

Draeculacephala crassicornis n. sp.

Allied to *noveboracensis*, but with the vertex a little longer in the female and more heavily linedated with black; male antennae stout, setaceous only at tip. Length 7-8 mm.

Vertex about right-angled in the male, a little longer in the female. Lineations of the vertex slender but distinct; black marks at apex of the vertex parallel, not at all triangular in the male, in the female linear, in both sexes leaving a conspicuous yellow median vitta. Plates of the male abruptly narrowed to long, slender points as in *manitobiana*, but here they are strongly divergent, almost at a right angle, not upturned as in the other species. Antennae of the male long and conspicuously thickened nearly to the apex and a little flattened, the middle of the thicker portion a little more slender. Last ventral segment of the female less produced than in *noveboracensis*, with the lateral angles more retreating.

Colors duller than in *noveboracensis*, the apex of the pronotum and base of the vertex sometimes touched with green; sides of pronotum without a black longitudinal line. Elytral venation more or less bluish. Antennae testaceous, becoming black on the apical one-half of the thickened portion, with its apical seta white.

Described from two males and one female collected at Rock Creek, Oregon, July 14th, and two females from Corvallis, Oregon, all received from Dr. H. F. Wilson, and one female in my own collection taken by Mr. T. Kincaid at Olympia, Washington. Should these sexes be incorrectly placed the name must follow the male. The unusually thickened antennae of the male will distinguish the species.